PURE RESONANCE AUDIO®

RZMA120BT ZONE MIXER AMPLIFIER

INSTALLATION AND OPERATION MANUAL

⚠ Caution: Please read this manual carefully before operating.
Damage caused by misuse is not covered by the warranty.

SAFETY PRECAUTIONS

- Be sure to read the instructions in this section carefully before use
- Be sure to follow the instructions in this manual, as safety symbols and message conventions are considered very important precautions
- We also recommend you keep this instruction manual handy for future reference

SAFETY SYMBOLS AND MESSAGE CONVENTIONS

Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage that could result from mishandling. Before operating your product, read this manual first and understand the safety symbols and messages so you are thoroughly aware of the potential safety risks.

⚠ **WARNING!**   Indicates a potentially hazardous situation that, if mishandled, could result in death or serious personal injury.

⚠ **CAUTION!**   Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury and/or property damage.

⚠ WARNING!

WHEN INSTALLING THE UNIT

- Do not expose the unit to rain or an environment where it may be splashed by water or other liquids, as doing so may result in fire or electric shock. Only clean it with a dry cloth.
- Use the unit only with the voltage specified on the unit. Using a voltage higher than specified may result in fire or electric shock.
- Do not cut, bend, damage, or modify the power cord. Also, avoid using the power cord near heating appliances. Never place heavy objects (including the unit itself) on the power cord, which could result in fire or electric shock.
- Be sure to replace the unit's terminal cover after connecting wires. Because voltage is applied to the speaker terminals, never touch these terminals to avoid electric shock.
- Be sure to connect to the safety ground (earth) terminal to avoid electric shock. Never ground to a gas pipe as a catastrophic disaster may result.
- Never compromise the safety features of power plugs with polarity or grounding. In the plug with polarity, one pin is wider than the other. In the plug with grounding, there are 2 pins and another pin for grounding. The wider grounding pin is designed for safety reasons.
- Do not install or place the device in an unstable place, such as a wobbly table or sloped surface. Otherwise, the device may fall and cause personal injury and/or property damage.
- For amplifiers mounted in racks, all cables and materials should be kept away from the sides. Before taking it out from the rack case, allow the unit to cool for 2 minutes.

WHEN THE UNIT IS IN USE

- If any of the following irregularities are found during use, immediately switch off the power, disconnect the power supply plug from the AC outlet, and contact your nearest dealer. Make no further attempt to operate the unit in this condition, as this may cause fire or electric shock.
  - If you detect smoke or a strange smell coming from the unit
  - If water or any metallic object gets into the unit
  - If the unit falls or the unit case breaks

- ▪ If the power supply cord is damaged (exposure of the core, disconnection, etc.)
- ▪ If it is malfunctioning (no tone sounds)
- • Never open or remove the unit case, as there are high-voltage components inside the unit. Refer all servicing to your nearest dealer.
- • Do not place cups, bowls, or other containers of liquid or metallic objects on the unit in case they accidentally spill into the unit.
- • Do not insert or drop metallic objects or flammable materials in the ventilation slots of the unit's cover, as this may result in fire or electric shock.

⚠ CAUTION!

WHEN INSTALLING THE UNIT

- • Never plug in or remove the power supply plug with wet hands, as doing so may cause electric shock.
- • When moving the unit, be sure to remove its power supply cord from the wall outlet. Moving the unit with the power cord connected to the outlet may cause damage to the power cord, resulting in fire or electric shock.
- • When unplugging the power supply cord, be sure to grasp the plug; never pull on the cord, as this can damage the cord.
- • Do not block the ventilation slots in the unit's cover. Doing so may cause heat to build up inside the unit and result in fire.
- • Avoid installing the unit in humid or dusty locations, in locations exposed to direct sunlight, near heaters, or in locations generating soot, smoke, or steam, as doing otherwise may result in fire or electric shock.

WHEN THE UNIT IS IN USE

- • Do not place heavy objects on the unit, as this may cause it to fall or break, which may result in personal injury and/or property damage. In addition, the object itself may fall off and cause injury and/or damage.
- • Ensure the volume control is set to the minimum position before the power is switched on. Loud noise produced at high volume when the power is switched on can impair hearing.
- • Do not operate the unit for an extended period when the sound is distorting. Distortion indicates a malfunction, which can cause heat to generate and result in a fire.
- • If dust accumulates on the power supply plug or the wall AC outlet, fire or damage to the unit may result. Clean it periodically. In addition, insert the plug in the wall outlet securely.
- • Switch off the power and unplug the power supply for safety if there is a thunderstorm while cleaning or leaving the unit unused for 10 days or more.

An all-pole mains switch with a contact separation of at least 3 mm in each pole must be incorporated into the electrical installation of the building.

PLEASE NOTE: Due to product upgrades, some of the features and specifications in this user manual may or may not match the actual functions of the unit.

DESCRIPTION

The Pure Resonance Audio RZMA120BT 4-zone commercial mixer amplifier is a versatile and robust solution, providing 120 watts of output per zone with 4 ohms, 70-volt, and 100-volt terminals. This multi-zone mixer amplifier accommodates a wide range of audio sources, featuring a built-in MP3 player with an FM tuner, Bluetooth streaming, SD, USB, XLR, dual RCA, and bare wire inputs. The telephone signal input port ensures seamless integration with existing phone systems, and a dedicated monitor channel allows for easy zone monitoring. The advanced matrix technology makes it simple to assign the four selectable inputs to a single zone or multiple zones at the push of a button. The RZMA120BT delivers exceptional flexibility and performance, making it ideal for various commercial environments.
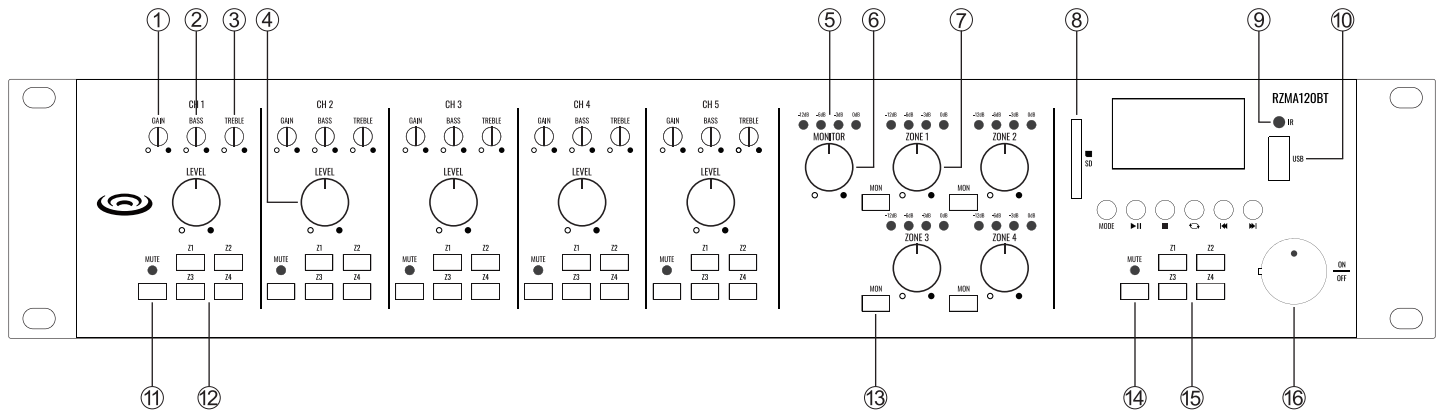
FEATURES

- Robust 2U 19-inch rack-mountable chassis
- 4 Zones x 120W with 70V, 100V, and 4-16Ω speaker outputs per zone
- Matrix technology for independent or simultaneous input assignment across zones
- 5-Channel inputs and MP3 player with separate gain, bass, treble, and volume controls
- 3 MIC or LINE level XLR/RCA inputs
- 2 LINE level unbalanced RCA inputs
- MP3 player with SD, USB, FM tuner, and Bluetooth
- Priority input overrides all other sources
- Built-in monitor with volume control for zone monitoring
- Overload, short circuit, and overheat protection
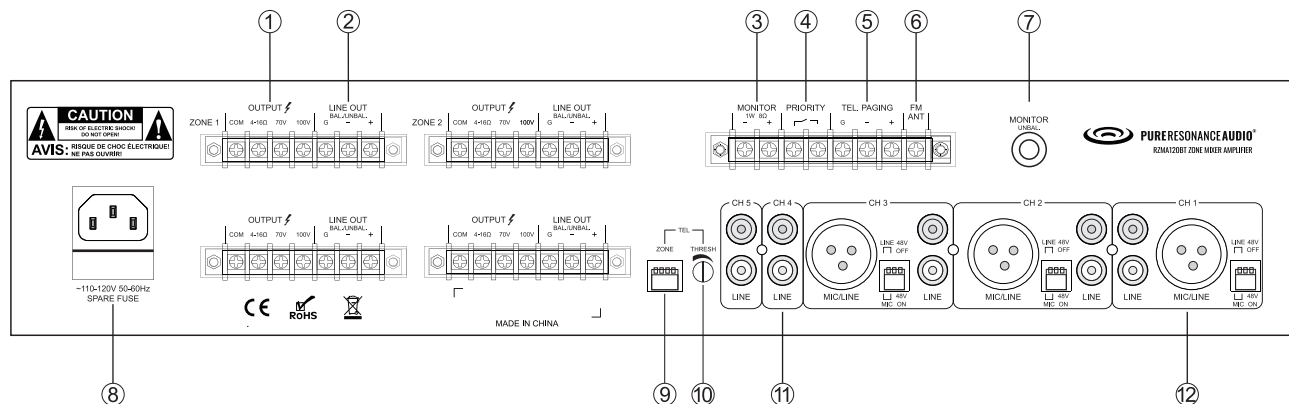
SPECIFICATIONS

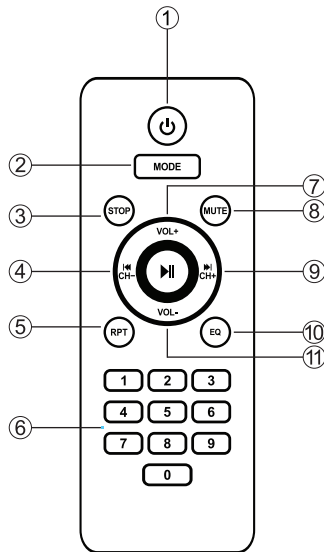|	
Rated Power Output	4 x 120 Watts at 70V
Speaker Outputs	70V/100V and 4-16Ω
LINE 1-3 Output Level	1V/600 Ω (balanced output)
Monitor Output	1W/8Ω
Input Sensitivity	MIC: 4mV / AUX: 500mV
Frequency Response	60Hz - 20kHz
Distortion (THD)	< 0.05%
Signal-to-Noise (S/N) Ratio	> 80 dB
Equalization	High: ±10 dB at 100Hz / Low: ±10 dB at 100Hz
MP3	Supports MP3 format, max capacity of 32GB
SD File System	Only FAT16 or FAT32
Indicator	LED signal level
Protection	Overheat, overload, and short-circuit
Power Consumption	960W
Power Supply	~110-120V 60Hz
Remote Control	IR remote uses replaceable AAA batteries
Dimensions (H x W x D)	3.46" (88 mm) x 19.06" (484 mm) x 15.88" (403 mm)
Weight	37.48 lbs (17 kg)

FRONT PANEL

1. Channel Gain Control
2. Channel Bass Control
3. Channel Treble Control
4. Channel Volume Control Knob
5. LED Signal Level Indicators
6. Monitor Volume Control Knob
7. Zone Volume Control Knob
8. SD Card Input
9. IR Control Reception
10. USB Input
11. Channel Mute Button
12. Channel Zone 1-4 Selector Buttons
13. Zone Monitor Select Button
14. MP3 Mute Switch Button
15. MP3 Zone 1-4 Select Buttons
16. ON/OFF Power Switch

REAR PANEL

1. Zone 1-4 Speaker Output
2. Zone 1-4 Line Output
3. Monitor Output
4. Priority Control
5. Telephone Input
6. FM ANT Input
7. Monitor Out
8. AC Power Input
9. Telephone DIP Switch
10. Telephone Volume Control
11. Channel 4-5 Dual RCA Line Input
12. Channel 1-3 XLR Mic/Line and Dual RCA Line Switching Input with Ph 48V DIP Switch

REMOTE CONTROL

1. Power
2. Mode
3. Stop
4. Previous
5. Repeat
6. 0-9 Number Buttons
7. Volume Increase
8. Mute
9. Next
10. EQ (Sound Effects Control)
11. Volume Decrease

OPTIMAL OPERATING RANGE OF REMOTE CONTROL

The effective range for remote control operation is approximately 8 meters without obstructions. The remote control angle: Horizontal ± 35 degrees and vertical ± 15 degrees are valid.

NOTICE - USAGE OF REMOTE CONTROL

- When installing the batteries, ensure the positive (+) and negative (-) ends are matched correctly.
- Ensure that the remote control is accurately aimed toward the media player.
- If the remote distance becomes limited and less responsive, replace the batteries.
- Remove the batteries when the device is not in use for an extended period.
- Handle the remote with care to prevent dropping and causing damage.
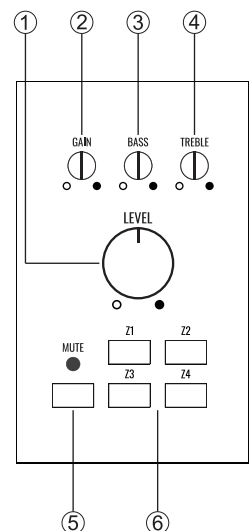
OPERATION

STARTING-UP PROCEDURES

1. Set the **LEVEL** knobs of CH1 to CH5 to the lowest position (counterclockwise) on the front panel.
2. Set the **TREBLE** and **BASS** knobs to the 12 o'clock position (straight up).
3. Set the **GAIN** knobs of CH1 to CH5 counterclockwise to the minimum.
4. Set all of the **TEL** Dip switches to the down position on the back of the amplifier.
5. Switch the power button to the **ON** position.
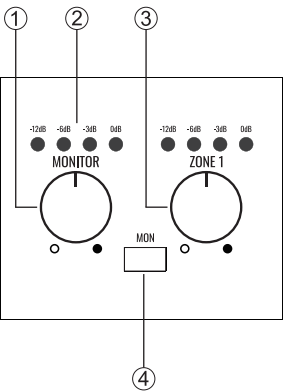
CHANNEL OPERATION INSTRUCTIONS

Operational instructions are identical for CH 1 through CH 5. See example.

1. **LEVEL:** Changes the input level of the channel.
2. **GAIN:** Adjusts the level of your audio mix.
3. **BASS:** Adjusts the low frequencies of your audio mix.
4. **TREBLE:** Adjusts the high frequencies of your audio mix.
5. **MUTE:** Mutes the selected channel.
6. **ZONE 1-4 Buttons:** Press the zone button to select where to route the audio signal.

ZONE OPERATION INSTRUCTIONS

1. **MONITOR Level Knob:** Adjusts the level of the monitor output signal.
2. **Output Status Lights:** The status lights indicate the signal level for the corresponding output.
3. **ZONE Level Knobs:** Changes the output level of the zone.
4. **Zone MON buttons:** Press the monitor button to select and monitor a specific zone. Then use the monitor volume knob to adjust the volume for the specified zone.
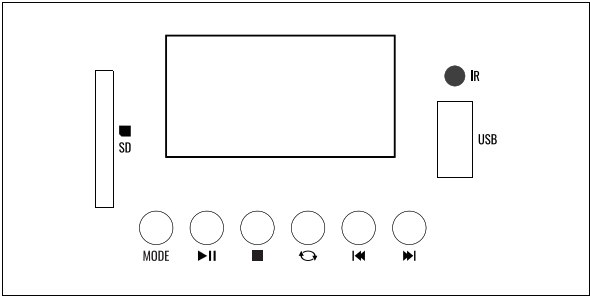
MONITOR OPERATION INSTRUCTIONS

1. Select the Zone to monitor.
2. Adjust the monitor to the desired level.

TELEPHONE INPUT OPERATION INSTRUCTIONS

- **TEL. PAGING Input**: Telephone functions are only controllable from dip switches and volume control on the back of the unit.
- **THRESH Dial**: Sets the input signal of the telephone.
- **ZONE Dip Switch**: Assigns telephone input to a specific zone. Position the dip switch upwards to route the phone to the desired zone.

BUILT-IN MP3 PLAYER OPERATION METHOD

◯ MODE	**MODE:** Changes the mode from FM radio, Bluetooth, USB or SD card, or audio playback (Press and hold to turn on/off the media player)
◯ ▶II	**PLAY / PAUSE**: Plays or pauses the audio from the player.
◯ ■	**STOP:** Stop the audio from the player.
◯ ↻	**REPEAT:** Sets repeat loop playback (with Repeat One / Repeat ALL / Random)
◯ I◀◀	**PREVIOUS:** Returns to the previous audio track. (Press to search stations in FM mode) (Press and hold to decrease the volume)
◯ ▶▶I	**NEXT:** Skips the current audio track and goes to the next one. (Press to search stations in FM mode) (Press and hold to increase volume)

PLEASE NOTE: When using the built-in MP3 player, be mindful of the force applied and avoid excessive pressure that could damage the buttons.

USB OPERATION

Press the **MODE** button to select the USB mode and copy the MP3 file to the U disk (below 32G). It supports MP3 / WAV / WMA / AEC / FLAC formats.

SD CARD OPERATION

Insert an SD card (below 32G) to copy the MP3 file. It supports MP3 / WAV / WMA / AEC / FLAC formats.

PLEASE NOTE: When inserting an SD card or USB, ensure it is done correctly. Avoid inserting it the wrong way or forcing it too hard, as this may damage the SD or USB port.

FM (RADIO RECEPTION) FUNCTION

Press **MODE** to select the FM mode, then press **PLAY** to search available radio stations. It saves stations automatically. Press **PREVIOUS** or **NEXT** to choose a station. The radio stations received (depending on the signal received) will depend on the signal strength. To search for additional stations, you can reposition the FM antenna.

PLEASE NOTE: Due to the possibilities of FM radio interference and the variables involved, it's recommended to use something other than FM radio as your primary input source.

MP3 SONG LOOP PLAYBACK

In USB or SD card mode, play a song at will and press REPEAT to switch between Repeat One / Repeat ALL / Random.

FUNCTIONAL MEMORY OPERATION

Turn off the media player by the remote control or press and hold the **MODE** button. After turning it back on, it will remember the last selected function mode.

VOLUME +/- OPERATION

Long press the **NEXT** button to increase the volume quickly, and long press the **PREVIOUS** button to decrease the volume quickly.

BLUETOOTH OPERATION

1. Press **MODE** to select Bluetooth mode. The screen will show "Disconnect."
2. Go to your device's Bluetooth settings and choose "**PRA-BT**". No password should be required.
3. The screen will show "BLUE: CONNECTING", then the device should pair within minutes.
4. If pairing is unsuccessful, ensure no other device is connected and disconnect any existing devices.
5. If no other devices are connected, power down your amplifier and close the settings app on your device.
6. Power up the amplifier and re-open the settings. Repeat the first steps to attempt to pair again. If you still have an issue pairing, please reboot the personal device and cycle the amplifier power.
7. When pairing is successful, open a music app. Ensure that your device's volume is turned up to at least 75% capacity.
8. Adjust the volume of the audio player with volume buttons on the infrared remote or by long pressing the **NEXT**(+)/**PREVIOUS**(-) buttons on the media player.
9. Adjust the master volume to the desired level using the selected Zone's volume control knob. Ensure the amplifier does not show clipping or any red lights.

CH1, CH2, CH3 SWITCH APPLICATION

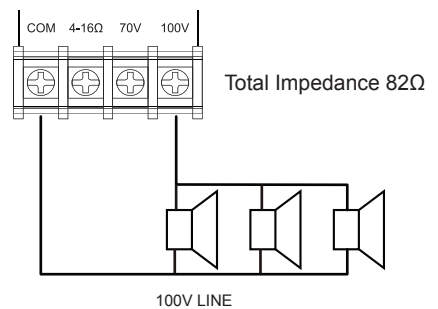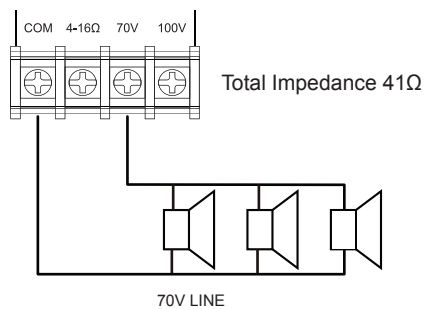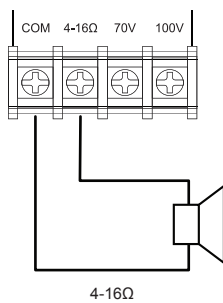The input switch has three modes: LINE, PHANTOM, and MIC

1. The **LINE** input is for line-level audio source inputs, such as CD, VCD, DVD, and other audio equipment.
2. The **MIC** input is used for ordinary dynamic microphones.
3. The **PHANTOM** input offers a **48V** power supply for a condenser microphone.

MUTE OPERATION

CH1 has the highest priority in default status.

- Default Priority Settings (high to low): CH1 > Telephone
- When the "PRIORITY" jumper is added (high to low): Telephone > CH1
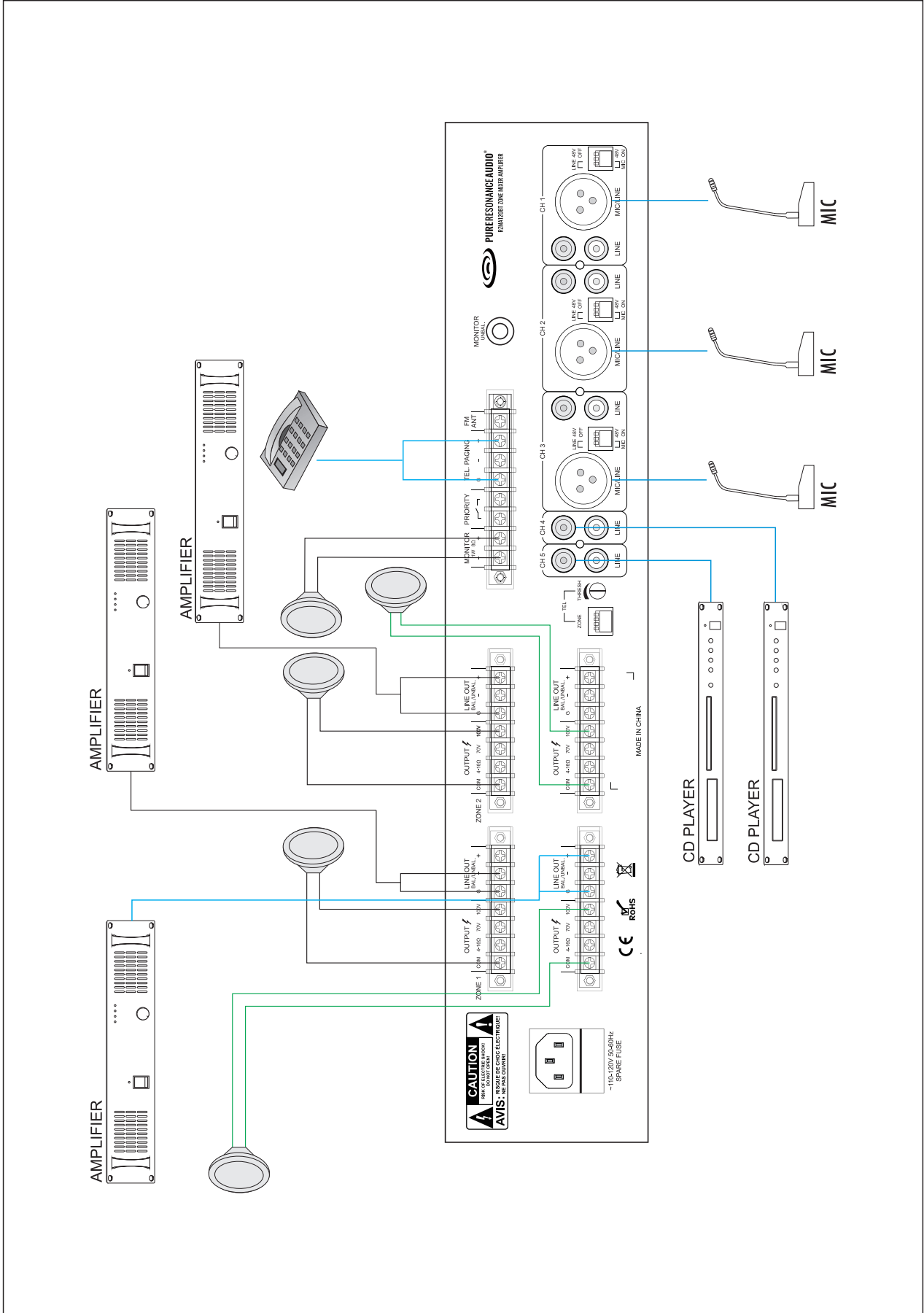
SPEAKER CONNECTIONS

PLEASE NOTE:

- The 4-16Ω, 70V, and 100V terminals cannot be used simultaneously.
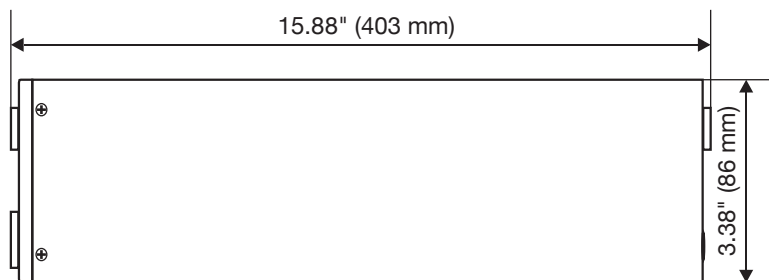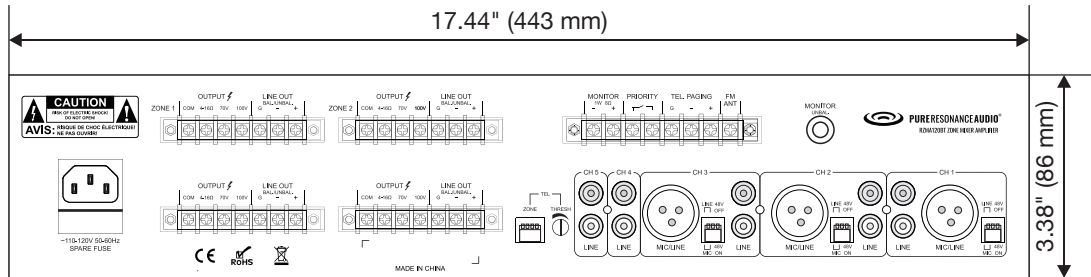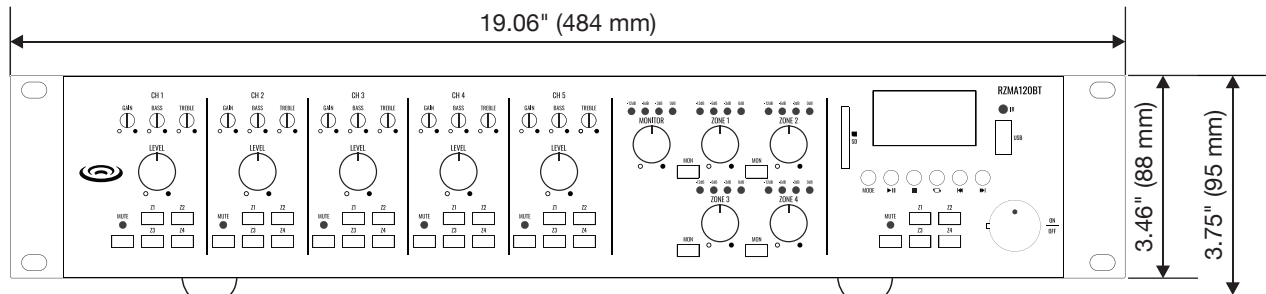- The figures indicate the total speaker system (load) impedances.

⚠ WARNING!

Be sure to attach the supplied terminal cover after the connection is completed. Because high voltage is applied to the speaker terminals, never touch these terminals to avoid electric shock.
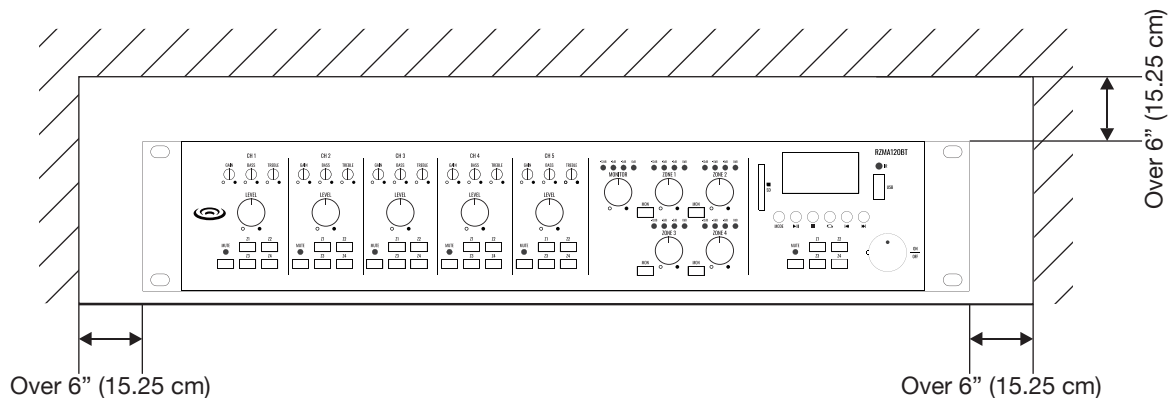
REAR PANEL CONNECTIONS

DIMENSIONAL DIAGRAMS

19.06" (484 mm)

3.46" (88 mm)

3.75" (95 mm)

RZMA120BT

17.44" (443 mm)

3.38" (86 mm)

15.88" (403 mm)

3.38" (86 mm)

⚠ CAUTION!

For good ventilation and cooling, keep all sides of the unit at least 6" (15.25 cm) away from objects that may obstruct airflow.

Over 6" (15.25 cm)

Over 6" (15.25 cm)

Over 6" (15.25 cm)

SERVICE

In the event of a malfunction, ensure the problem is not related to operator error or system devices external to this unit. Once it is certain that the problem is related to the product, contact your warranty provider as described in the warranty section of this manual.

LIMITED WARRANTY

PRO ACOUSTICS, LLC. ("PRO ACOUSTICS") warrants this product to the original purchaser to be free from defects in materials and workmanship (subject to the terms set forth below) for the following periods from the date of purchase.

THIS WARRANTY COVERS THE LISTED PRODUCTS AGAINST DEFECTS IN MATERIALS OR WORKMANSHIP FOR THE FOLLOWING PERIOD

Warranty Terms

Speakers	2 Years
Amplifiers & Electronics	1 Year
Microphones	1 Year
Accessories	1 Year

PRO ACOUSTICS will repair or replace (at PRO ACOUSTICS's option) this product or any defective parts (excluding electronics and amplifiers) in this product.

Your authorized PRO ACOUSTICS dealer will inspect the product, and if your dealer is not equipped to perform the repair of your PRO ACOUSTICS product, they will replace your product or return it to PRO ACOUSTICS for repair at their discretion. Proof of purchase in the form of a bill of sale or receipted invoice, which is evidence that this product is within the warranty period, must be presented to obtain warranty service.

This warranty is invalid if the factory applied serial number has been altered or removed from this product. This warranty is invalid if this product was not purchased from a PRO ACOUSTICS authorized dealer. Cosmetic damage or damage due to the accident, acts of God, misuse, abuse, negligence, commercial use, or modification of, or to any part of, the product are not covered in this warranty. This warranty does not cover damage due to improper operation, maintenance, installation, or attempted repair by anyone other than PRO ACOUSTICS or a PRO ACOUSTICS dealer that is authorized to do PRO ACOUSTICS warranty work. Any unauthorized repairs will void this warranty.

This warranty does not cover products sold as is.

REPAIRS OR REPLACEMENTS AS PROVIDED UNDER THIS WARRANTY ARE THE EXCLUSIVE REMEDY OF THE CONSUMER/PURCHASER. PRO ACOUSTICS U.S.A. SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THIS PRODUCT. EXCEPT TO THE EXTENT PROHIBITED BY LAW, THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES WHATSOEVER, INCLUDING BUT NOT LIMITED TO, THE WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PRACTICAL PURPOSE.

This warranty gives you specific legal rights. You may have other rights which vary from state to state.